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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,659	08/16/2006	Horst Binder	294826US0PCT	9973
22850 7590 11/02/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER LEONARD, MICHAEL L.				
ART UNIT 1796		PAPER NUMBER		
NOTIFICATION DATE 11/02/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/589,659

**Applicant(s)**

BINDER ET AL.

**Examiner**

MICHAEL LEONARD

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 7, 10, and 12-13 are rejected under 35 U.S.C. 102 (b) as being anticipated by JP-2002-097244 to Ito et al.

As to claims 1 and 10, Ito discloses a process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing (cylco)aliphatic polyisocyanates, such as hexamethylene diisocyanate and isophorone diisocyanate (0013), using a co-catalyst system comprising ammonium salts and ascorbic acid (Claim 1).

As to claims 2-3 and 5, Ito discloses suitable ammonium salts such as tetramethylammonium, tetraethylammonium, tetrabutylammonium, etc. (0015).

As to claim 7, Ito discloses stopping the trimerization after 35-40% conversion (0019).

It is noted that claims 12-13 claim polyurethane coating, all elected claims are recited in the product-by-process format by use of the language, "A polyurethane coating comprising polyisocyanates prepared by the process of claim 1..." and "comprising a polyisocyanates prepared by the process of claim 1..." Case law holds that: Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a

product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

To the extent that the process limitations in a product-by-process claim do not carry weight absent a showing of criticality, the reference discloses the claimed product in the sense that the prior art product structure is seen to be no different from that indicated by the claims.

As to claims 12-13, Ito discloses that the polyisocyanates obtained can be used as weather resistant coating materials (00013).

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-2002-097244 to Ito et al. that has been explained above and is applied here as such in view of U.S. Patent Pub. No. 2004/0186194 to Joern et al.

As to the claims, Ito discloses ascorbic acid as a suitable alpha-hydroxy carboxylic acid that is used in combination with ammonium salts to increase the reactivity of the catalyst and to increase isocyanurate conversion (0010).

However, Ito does not disclose the specific alpha-hydroxy compounds of claims 4 and 6.

Joern discloses the use of carboxylic acids in combination with a trimerisation catalyst that leads to improved processing and higher isocyanurate conversion, wherein the carboxylic acids are selected from a list that includes hydroxy benzoic acid, citric acid, glycolic acid, lactic acid, etc. (0009 and 0012).

The examiner is taking the position that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 626 F.2d 846, 850,205 USPQ 1069, 1072 (CCPA 1980). The substitution of one alpha-hydroxy carboxylic acid for another is prima facie obvious because the alpha-hydroxy carboxylic acids were implemented in both cases to increase isocyanurate conversion as evidenced by Ito (0010) and Joern (0009 and 0012).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP-2002-097244 to Ito et al. that has been explained above and is applied here as such in view of U.S. Patent No. 5,489,663 to Brandt et al.

Ito do not expressly disclose deactivating the catalyst with dibutyl-phosphate or di(2-ethylhexyl) phosphate or the chlorine content of the isocyanurate.

Brandt discloses after reaching the desired degree of trimerization, the trimerization reaction is deactivated by di (2-ethylhexyl) phosphate or dibutyl phosphate (Column 5, lines 39-55). Brandt further discloses that isocyanates are chosen from a group comprising 1,6-hexamethylenediisocyanate or 1-isocyanato-3-isocyanato-3,5,5-

trimethylcyclohexane and the isocyanates used can be prepared by any processes including phosgenation and phosgene-free of the corresponding diamines (Column 6, lines 45-55). Cyclo-aliphatic diisocyanates prepared by phosgene-free processes do not contain chlorine compounds as byproducts (Column 6, lines 56-59).

Ito and Brandt are analogous art because they are from the same field of endeavor with respect to using quaternary ammonium salts of carboxylic acids as catalysts for the production of isocyanurate-containing polyisocyanate.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to deactivate the catalyst system used by Ito with the de-activators of Brandy in order to create a polyisocyanate containing isocyanurate and it would have been obvious to use to phosgene-free process to prepare the diisocyanates used by Ito because the trimerization catalysts would have had a significantly higher catalytic activity (Brandt, Column 6, lines 61-64).

**\*\*The examiner would like to apologize to the applicants' for not pointing out the prior art presented above in previous office actions.**

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/  
Examiner, Art Unit 1796

/Randy Gulakowski/  
Supervisory Patent Examiner, Art Unit 1796